(iii) recommend improvements to regulatory framework for coal mining in India.

The final report submitted by the Consultant under the project has several recommendations suggesting various reforms in the Indian coal sector. Ministry of Coal has prepared a Time Bound Action Plant for implementing the feasible recommendations in the report. Implementation of the Action Plan will call for wideranging reforms in many mineral, industrial, labour and environmental laws and procedures.

**Expenditure on R&D by Coal Companies**

312. SHRI B.J. PANDA: Will the Minister of COAL be pleased to state:

(a) the amount spent by various coal companies on Research and Development during the last three years;

(b) the specific R&D work launched by Mahanadi Coal Fields (MCL) during these years; and

(c) the details of the R&D programme drawn up by MCL for the Ninth Plan period?

THE MINISTER OF STATE OF THE MINISTRY OF COAL (SHRI N.T. SHANMUGAM): (a) the details of amount spent by various coal companies on Research and Development during last three years are given below:

(i) From S&T fund (Disbursement of fund) from Ministry of Coal.

(*Rs. in lakhs*)

| Company | 1997-98 | 1998-99 | 1999-00 |
|---|---|---|---|
| ECL | — | — | 24.00 |
| BCCL | 2.73 | — | — |
| CCL | — | — | 1.00 |
| WCL | — | 4.75 | 37.00 |
| SECL | — | 84.73 | 15.11 |
| NCL | 4.64 | 0.63 | — |
| NEC | 7.57 | — | — |
| CMPDIL | 90.06 | 267.54 | 71.20 |
| CIL | 105.00 | 357.65 | 148.31 |

(ii) From R&D fund of CIL (Disbursement of fund)

(*Rs. in lakhs*)

| Company | 1997-98 | 1998-99 | 1999-00 |
|---|---|---|---|
| ECL | 10.90 | 44.00 | 6.00 |
| BCCL | 95.00 | — | — |
| CCL | — | — | 66.50 |
| WCL | 6.00 | 6.75 | 4.00 |
| SECL | — | — | 8.00 |
| MCL | 5.27 | 18.16 | 31.19 |
| CMPDIL | 5.00 | 153.25 | 65.83 |
| CIL | 122.17 | 222.16 | 181.52 |

(b) & (c): The specific R&D work launched by Mahanadi Coalfields Limited during the last three years for IXth Five Year Plan are as follows:—

1. Determination of Efficacy in avoidance of spontaneous heating in coal stocks/coal benches with

(i) Soil cement (a chemical)

(ii) Soil cement in conjunction with purging of air/oxygen from coal heap by Nitrogen infusion through perforated pipes laid at heap floor.

2. Keeping the coal heaps purged of oxygen/air by periodical nitrogen infusion through perforated pipes laid at heap floor without use of soil cement for prevention of spontaneous heating in a coal stock pile at Samleswari OCP.

3. Quantification of relative proportions of fly ash and mine dust in SPM content of ambient air in Ib valley area of MCL for relative inter sectoral pollution assessment.

4. Stabilisation of 5.0 HA. OB dump slope at MCL OCPs with coir-Gexotextiles trail installation of sensor operated, automatic instant shower system for showering of in motion loaded coal trucks at Bharatpur and Lingraj OCPs.

5. Trial installation of sensor operated automatic concurrent shower system in CHP of Jagannath OCP.

6. Subsidence study at SOCP hill top colony in Ib-valley areas (Ist Phase).

7. Extraction design to prevent surface subsidence at Hingir Rampur Mine, Orient Area.

8. Vibration study due to solid blasting in Mine No. 3, Orient Area.

9. Blast optimisation and Ground vibration study at Lakhanpur OCP.

**Contract Workers in MCL**

313. SHRI RAMACHANDRA KHUNTIA: Will the Minister of COAL be pleased to state:

(a) the total number of contract workers working in Mahanadi Coal Fields Ltd. for cutting and lifting all overburden, transport and other work; and

(b) whether Government are aware that they are not covered under any social security scheme and also not getting the minimum wages and other statutory benefits?

THE MINISTER OF STATE OF THE MINISTRY OF COAL (SHRI N.T. SHANMUGAM): (a) As reported by Coal India Limited, the total number of contract workers working in the Mahanadi Coalfields Limited for cutting and lifting all overburden, transport and other works are as follows:—

| | | | |
|---|---|---|---|
| 1. | Cutting and lifting all overburden | — | Nil |
| 2. | Transport | — | 2,834 |
| 3. | Other works | — | 2,345 |
| | Total | — | 5,179 |

(b) The contract workers are covered under social security scheme as applicable and they get minimum wages and other statutory benefits as admissible. However, they do not get such benefits at par with permanent workers.

**Transfer of CCL mines**

†314. SHRI VIJAY SINGH YADAV: Will the Minister of COAL be pleased to state:

(a) whether any decision was taken by Government to transfer seven coal mines of the Central Coalfields Limited to the Bihar State Mineral Development Corporation;

---

†Original notice of the question was received in Hindi.